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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/556,559

11/14/2005

Jacques Villiers

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EXAMINER

MAWARI, REDHWAN K

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/556,559	Applicant(s) VILLIERS, JACQUES	
	Examiner REDHWAN MAWARI	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/14/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/05/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 26-28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Regarding claim 26, the claimed process (a) does not result in a physical transformation or (b) must be limited to a practical application, which does not produce useful, tangible results.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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- a. Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim language must be reviewed and corrected. Below are examples of what must be corrected.
- b. Regarding claim 1 and 26, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
- c. Regarding claim 1, the language of claim is unclear and must be corrected. More specifically, the phrase "computer agenda" renders the claim indefinite because it is unclear how the "computer agenda" is related to the system. Applicant must define computer agenda.
- d. Claim 1 recites the limitations "the data", "the flight plan", "the aircraft", "the controllers" and "the control sectors". There is insufficient antecedent basis for this limitation in the claim. Above limitations are just examples of antecedent basis for claim 1. Applicant must review all claims for antecedent basis issues and correct them.
- e. Claim 1 recites the phrase "the controller". It is unclear what is meant by "the controllers". Applicant must provide a clear definition of the phrase "controller".
- f. Claim 1 recites the phrase "which takes only the source to the lack of accuracy, etc...". Said phrase is unclear and must be corrected.

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- g. Claim 3 recites the phrase “on the said onboard” is unclear and must be corrected.
- h. Claims 9 and 10 recite the phrase “namely those will give birth”. It is unclear what is meant by the term "namely" and "give birth".
- i. Claim 12 recites the terms “type” and “biunivocal”. Said terms are unclear.
- j. Claim 13 recites the limitation “the designation”. There is insufficient antecedent basis for this limitation.
- k. Claim 14 and 15 recite the phrase “their desire”, “when he or she and them”. The term is unclear and renders the claim indefinite.
- l. Claim 19 recites the phrase “The coordinates of the said point being respectively in abscises the delay”. The phrase is unclear and renders the claim indefinite.
- m. Regarding claim 22, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erzberger (6,314,362) in view of Farahat (5,961,568) and further in view of Choate (5212804)

Consider claim 1, Erzberger a device for automated evolutionary assistance to the-air traffic control for equipping an air traffic control system comprising: a computer including a software program permitting to receive the data concerning the flight plans of the aircraft and Radars and to elaborate and display them to the controllers of the control sectors (col. 10, lines 21-26); said controllers having a radiotelephony link for communicating with the said aircraft (); said system moreover comprising means for permitting to the controllers to elaborate and display a list said controller agenda of the problems such as the said controllers can forecast them with the sole data and analysis means they have at their disposal (col. 10, lines 21-37);

wherein said device comprises includes; means for establishing and updating computer agenda of conflicts on the basis of all the information and computation means of the computer (col. 10, lines 21-37);

means for comparing, aircraft pair by aircraft pair, the controller agenda and the a computer agenda, in that the said device makes appearing each forecast disparity between the said agendas (col. 10, lines 21-50, col. 11, lines 1-8);

means for selecting those of the problems as forecast by the controller which only take their source to the lack of accuracy of the said forecast made by the controller (col. 10, lines 21-50);

means for selecting among the aircraft pairs those of the conflicts which can be solved by a modification of the flight parameters (col. 10, lines 54-61);
and

means for exchanging messages between the computer and the controller (col. 11, lines 1-21).

One of the ordinary skilled would understand that Erzberger discloses controllers having a radiotelephony link for communicating with the said aircraft. However because Erzberger didn't explicitly disclose controllers having a radiotelephony link for communicating with the said aircraft, the examiner introduces a secondary reference (Farahat) to clarify the communication link.

Farahat teaches controllers having a radiotelephony link for communicating with the said aircraft (abstract).

Accordingly, it would have been obvious to an ordinary skilled person in the art at the time of invention to combine the invention of Farahat into the invention of Erzberger for the purpose of enhancing the accuracy of the overall communication system.

Furthermore, the combination of Erzberger and Farahat do not explicitly disclose a radiotelephony link; however Choate discloses a radiotelephony link (FIG. 1).

Accordingly, it would have been obvious to an ordinary skilled person in the art at the time of invention to combine the invention of Choate into the invention of Erzberger in view of Farahat for the purpose of enhancing the communication of between the ground and aircrafts.

Consider claim 2, Erzberger in view of Farahat further disclose wherein said device moreover comprising further includes means for elaborating optimal solutions to the conflicts figuring in computer agenda (see at least Erzberger, col. 11, lines 54-61).

Consider claim 3, Erzberger in view of Farahat disclose wherein said device moreover comprising further includes: means for establishing a radio link with the aircraft on board computers (see at least Farahat abstract); means for automatically collecting in the said on board computers complementary data for establishing the list of the computer agenda; and means for elaborating instructions for the collision avoidance of the aircraft (see at least Farahat col. 1, lines 54-63).

Consider claim 4, Erzberger in view of Farahat disclose wherein said device moreover comprising further includes means for collision avoidance instructions being executed and their execution being monitored by the mean of the automatic data link with the on board computers of the aircraft (see at least Farahat col. 1, lines 54-67, col. 2, lines 1-6).

Consider claim 5, Erzberger in view of Farahat disclose wherein said device moreover comprising further includes the means for automatically

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modifying, or after the concerned aircraft pilot's agreement, via the data link the flight parameters of the concerned aircraft (see at least Erzberger, col. 10, lines 37-61).

Consider claim 6, Erzberger in view of Farahat disclose wherein said device moreover comprising further includes means for automatically modifying, or after the concerned aircraft pilot's agreement via the data link when it is given order by the controller, the flight parameters of an aircraft when the said modifications make the said aircraft trajectory out of its flight plan tolerances (see at least Erzberger, col. 10, lines 37-61).

Consider claim 7, Erzberger in view of Farahat disclose wherein said device moreover comprising further includes means for determining among the conflicts of the controller agenda those which have no reason to be and notifying it on the display of the sector in charge of the implied aircraft (see at least Erzberger, col. 11, lines 55-67)

Consider claim 8, Erzberger in view of Farahat disclose wherein said device moreover comprising further includes means for establishing the computer agenda for all the traffic; including the conflicts even before the implied aircraft have entered in the control sector in which the conflict could happen (see at least Erzberger, col. 19, lines 7-26).

Consider claim 9, Erzberger in view of Farahat disclose wherein said device moreover comprising further includes means for selecting in the computer agenda the particularly sensitive conflicts, namely those which will conduct to

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conflict clusters being difficult to solve, and means for proposing the modification of the aircraft flight parameters on screen of the assistant controller presently in charge of the aircraft when the said conflict will only occur in a following sector (see at least Erzberger col. 10, lines 21-36).

Consider claim 10, Erzberger in view of Farahat disclose wherein said device moreover comprising further includes means for selecting in the computer agenda the particularly sensitive conflicts, namely those which will give birth to difficult to solve clusters, and means for proposing, on the screen of an assistant controller, transfer conditions of an aircraft of one of these sectors to the following (see at least Erzberger col. 10, lines 21-36).

Consider claim 11, Erzberger in view of Farahat disclose wherein said device moreover comprising further includes means for displaying on the assistant controllers screen proposals for anticipated conflict solving namely in the most sensitive cases either for conflicts which will occur in the following sectors, or for coordination between two sectors (see at least Erzberger, col. 10, lines 4-15).

Consider claim 12, Erzberger in view of Farahat disclose wherein said device moreover comprising further includes means for displaying on the screen types of messages from the computer to the controller, on the form of icons in biunivocal relationship with the concerned aircraft pairs, the said icons serving as virtual keyboard for addressing in return messages to the computer concerning the said conflict (see at least Erzberger, col. 8, lines 53-67).

Consider claim 13, Erzberger in view of Farahat disclose wherein said device further includes means for displaying on screen for each conflict controller agenda, a specific icon the designation of which by the controller makes displaying a virtual keyboard specifically adapted to the situation (see at least Erzberger, col. 8, lines 53-67).

Consider claim 14, Erzberger in view of Farahat disclose wherein said device further includes, means for displaying on the screen an icon the designation of which by the controllers or the assistant controllers, indicates their desire to know the solution(s) elaborated by the computer and then to inform the computer of the chosen solution (see at least Erzberger, col. 8, lines 53-67).

Consider claim 15, Erzberger in view of Farahat disclose fact that said set of icons -will permit to the controller to delegate, when he or she designates them, the responsibility to the computer (see at least Erzberger, col. 8, lines 53-67).

Consider claim 16, Erzberger in view of Farahat disclose wherein said device comprising further includes means for displaying on one of the controllers screen, close to the display of each problem, the time left before the actual conflict and/or the separation at the crossing of the trajectories (see at least Erzberger, col. 10, lines 30-37).

Consider claim 17, Erzberger in view of Farahat disclose wherein said device moreover comprising further includes means for displaying on one of the

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controller screens all the moments of occurrence of the conflicts still to be solved on a time graduated axis (see at least Erzberger, col. 2, lines 36-50, col. 5, lines 7-15).

Consider claim 18, Erzberger in view of Farahat disclose displaying means of the display of the occurrence moments are such that a controllers can add the moment when they estimate to have to check the state of each problem (see at least Erzberger, col. 10, lines 4-15).

Consider claim 19, Erzberger in view of Farahat wherein said device further includes means for elaborating on a screen a display making appearing each aircraft pair in potential conflict on the form of a point and of its speed vector, the coordinates of the said point being respectively in abscises the delay between the present moment and the moment when the said aircraft will have a minimum longitudinal separation, and in ordinates their separation distance at this moment (see at least Farahat abstract).

Consider claim 20, Erzberger in view of Farahat disclose wherein, said device is arranged for associating to the point representing an aircraft pair, a label providing the necessary data concerning the said aircraft (see at least Erzberger col. 11, lines 45-55).

Consider claim 21, Erzberger in view of Farahat disclose wherein said device is arranged for associating to the point representing an aircraft pair a indicator giving their vertical separation when their horizontal separation will be minimum (see at least Erzberger col. 8, lines 5-35).

Consider claim 22, Erzberger in view of Farahat disclose wherein said device moreover arranged laid out such as any designation by a controller of an aircraft on any of the screens makes appearing on all the other screens the said aircraft and the aircraft conflicting with it (see at least Erzberger col. 10, lines 21-37, FIG. 5).

Consider claim 23, Erzberger in view of Farahat disclose wherein said device further includes means to send control instructions to the on board computers of the so equipped aircraft, and means for receiving from the said computers data confirming the proper execution of the said instructions (see at least Farahat, abstract).

Consider claim 24, Erzberger in view of Farahat disclose wherein said device moreover comprising further includes means for sending a message to the so equipped two conflicting aircraft for sub-delegating to them of the responsibility of insuring their safe separation by their own means (see at least Farahat, col. 3, lines 28-34)

Consider claim 25, Erzberger in view of Farahat disclose wherein said device comprising further includes means for insuring the automatic display of any so delegated conflict, so that the controller agenda provides to the controller a permanent monitoring board displaying a list of the delegated conflicts and a list of the conflicts still to be solved (see at least Erzberger, col. 2, lines 36-50, col. 5, lines 7-15).

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Consider claim 26, claim 26 is rejected using the same art and rationale used to reject claim 1.

Consider claim 27, claim 27 is rejected using the same art and rationale used to reject claim 2.

Consider claim 28, claim 28 is rejected using the same art and rationale used to reject claim 3.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Redhwan Mawari whose telephone number is 571 270 1535. The examiner can normally be reached on 7:30 AM - 5PM Mon-Fri Eastern Alt Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

11/03/2008

/R. M./

Examiner, Art Unit 3663

/Tuan C To/
for Mawari, Redhwan, Examiner of Art Unit 3663/3600